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The optimal degree of competition and dynamic efficiency in Japan and Korea

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I Introduction: Analytical Context and the Main Policy Issues

An important policy issue facing many semi-industrial and transition economies today is what kind of anti-trust and competition policy they should pursue in order to promote industrialisation and economic growth. In terms of economic analysis, this boils down to the question of what the optimal degree of competition is for promoting dynamic efficiency (in the sense of maximising the long term rate of growth of industrial and overall productivity). We answer this question here with respect to the experience of the outstandingly successful East Asian countries - Japan and South Korea. In view of the extraordinary long term economic achievements of these nations in the post-war period (Singh, 1993a), this experience is important in its own right and for the lessons which other emerging economies may draw from it.

The subject is also controversial. In their seminal analysis of industrial organisation in Japan, Caves and Uekusa (1976) were stringent in their criticism of the Japanese competition policy. They concluded that "Its (anti-monopoly policy) failures have placed significant costs on the Japanese economy in the form of allocative inefficiency and diversion of rivalry into costly non-priced forms. We cannot detect any compensating gains." (p.157). On the other hand, Michael Porter (1990a) in his influential recent work on the competitive advantage of nations has argued that the international competitive success of the Japanese companies derives in large measure from the intense rivalry and competition they face in their domestic markets. "Nowhere", he writes, "is the role of fierce rivalry more apparent than in Japan . . ." [Porter, 1990b, p82].

The importance of strict competition policy in a more general context has been stressed by the World Bank in its recent advocacy

of a "market friendly" approach to development. (World Bank 1991). The Bank observes: "Competitive markets are the best way yet found for efficiently organising the production and distribution of goods and services. Domestic and external competition provides the incentives that unleash entrepreneurship and technological progress".¹

Until relatively recently, the traditional economic theory's answer to the question of optimal degree of competition was simple: maximum competition. As Telser (1987) notes: "It is hard for many economists to accept the proposition that competition may be excessive because the received theory regards competition as always good, the more there is the better". Although earlier contributions by Schumpeter (1942) and Richardson (1965) among others had seriously called into question the optimality of maximum competition for investment and technical progress and hence dynamic efficiency, these contributions were effectively ignored by the profession. However, in the last fifteen years, new developments in the theories of industrial organisation and international trade have resurrected such heterodox ideas. There now exists considerable literature which points out the shortcomings of unfettered competition, whether internal or external, even for static efficiency let alone in its dynamic form.²

Important practical policy issues which naturally arise from these theoretical developments in the two fields are: if total

¹ World Bank(1991), page 1. This assertion is highly controversial (see Singh,1993b), not least of all because the East Asian evidence, as we shall see later, does not support it.

² For reviews of the new industrial organisation literature see Jacquemin(1987), Schmalensee and Willig (1989), Tirole (1990); for international trade, see Helpman and Krugman (1989). For implications of the new industrial organisation theory for antitrust policies in advanced countries, see Jorde and Teece (1992).

openness to international competition and maximum domestic competition are not necessarily optimal, what is the appropriate level of openness or degree of domestic competition for an economy?

The economic failings of the highly monopolised and closed centrally planned economies of Eastern Europe and the former Soviet Union do not suggest that the other extreme of almost zero competition and almost zero openness has much to recommend it either. In this context the competition policy record of the exemplar East Asian economies which have purposefully desisted from either extreme, as we shall see below, assume special significance.

In what follows, for reasons of space, we concentrate more on domestic rather than foreign competition although we refer to the latter where appropriate.³ For similar reasons, we also confine our attention to product markets, and do not discuss the factor markets. Moreover, we consider here the Japanese experience only during 1950 -1973, the period of Japan's most rapid growth and the one which is most relevant from the standpoint of the emerging nations (See further Singh, 1989).

II Antitrust and Guided Competition in Japan

The Japanese inherited their antitrust laws from the U.S. occupation authorities after World War II. These were robust pro-competition measures modelled on the U.S. pattern and based on U.S. philosophical conceptions. In the immediate post-war period, the laws were strictly enforced and were successful in dismantling the leading pre-war zaibatsu - the large industrial groups which had dominated the Japanese inter-war economy - and were in the U.S. eyes responsible for the Japanese war preparations. However, soon

³ For an analysis of the optimum degree of economic openness, see Chakravarty and Singh (1988).

afterwards, under the pressure of the cold war, a rapid erosion of the competition laws, both defacto and dejure, started to occur.

This included interalia the re-groupment, with government encouragement, of the old zaibatsu into somewhat looser groupings, the keiretsu.

As Caves and Uekusa note, these antitrust laws had no domestic constituency in Japan at the time. More importantly, apart from being imposed by alien occupation authorities, they were also apparently alien to the basic economic philosophy of the Japanese ruling circles. Okimoto (1989) observes: "... the Japanese government takes a more pragmatic approach to antitrust enforcement, one that makes allowances for national goals such as industrial catch-up. It takes into account other collective values and extenuating circumstances in weighing enforcement decisions against the letter and spirit of antitrust laws. Included here are such considerations as economies of scale, enhanced efficiency, optimal use of scarce resources, international competitiveness, heightened productivity, business cycle stabilization, industrial orderliness, price stabilization and economic security." (pp.12-13).

In short to promote investment and technical change, instead of permitting unfettered competition, the Japanese government has controlled and guided domestic competition in a purposeful manner. Competition has both been encouraged, but notably also restricted in a number of ways. This has been particularly true during the years of rapid growth, 1950 - 1973. The agency primarily responsible for the antitrust enforcement in Japan is the Fair Trade Commission. However, in the Japanese scheme of government, it has much less power compared with MITI which is responsible for the country's industrial policy. Although the FTC has never been entirely toothless and antitrust-enforcement in Japan is not a

totally meaningless charade, most scholars agree that in any conflict between the two agencies' objectives (e.g. over the promotion of large scale firms or price fixing arrangements during a business cycle downturn), it is MITI and its industrial policy which by and large have prevailed over the FTC and the competition policy.

To illustrate, it is useful to reflect on some of the blatant restrictions which were imposed by the Japanese Government in the 1950s and 1960s on domestic product market competition. To meet its myriad goals which continually changed in the light of economic circumstances facing the country, MITI encouraged a variety of cartel arrangements in a wide range of industries – export and import cartels, cartels to combat depression or excessive competition, rationalization cartels, etc. According to Caves and Uekusa, in the 1960s, cartels accounted for 78.1 percent of the value of shipments in textiles; 64.8 percent in clothing; 50.0 percent in non-ferrous metals; 47 percent in printing and publishing; 41.2 percent in stone, clay and glass; 34.5 percent in steel products, and 37.2 percent in food products. Although these cartels functioned for only limited periods of time and there was wide variation in their effectiveness, Caves and Uekusa observed that "their mere presence in such broad stretches of the manufacturing sector attests to their importance." (page 147).

Similarly, believing that large scale enterprises were required for promotion of technical change and for Japanese firms to compete effectively with their western counterparts, MITI encouraged mergers between leading firms in key industries. The fact that the agency did not always succeed in its efforts (notably in the car and machine tool industries) does not detract from the anti-competitive bias of many of MITI's policies and actions. The anti-competitive actions were often re-enforced through MITI's use

of "administrative guidance" to firms and its discreet directions to industry associations with whom it invariably had close links.

However, these restraints on competition are only a part of the story. An equally significant part is MITI's strong encouragement of vigorous domestic oligopolistic rivalry and international competitiveness. In general, whether competition was promoted or restricted depended on the industry and its life-cycle: in young industries, during the developmental phase, the government discouraged competition; when these industries became technologically mature, competition was allowed to flourish. Later, when industries are in competitive decline, the government again discourages competition and attempts to bring about an orderly rationalization of the industry (Okimoto, 1990).

Yamamura (1988) provides a useful dynamic model of Japanese industrial policy and the meaning and the role of competition within it. During the rapid growth phase of Japanese development in the 1950s and 1960s, in the key industries which were receiving its attention, MITI essentially organized an "investment race" among large oligopolistic firms in which exports and international market share were significant performance goals. As in the real world markets are always incomplete, such a race without a coordinator could lead to ruinous competition, price wars and excess capacity, inhibiting the inducement to invest. In the Japanese economic miracle, MITI provided this crucial coordinating role and orchestrated the dynamic combination of collusion and competition which characterizes Japanese industrial policy. "In a nutshell," Yamamura observes "what MITI did was to 'guide' the firms to invest in such a way that each large firm in a market expanded its productive capacity roughly in proportion to its current market share—no firm was to make an investment so large that it would destabilize the market. The policy was effective in encouraging competition for

the market share (thus preserving the essential competitiveness of the industrial markets) while reducing the risk of losses due to excessive investment. Thus it promoted the aggressive expansion of capacity necessary to increase productive efficiency in output" (p 175)

Turning briefly to the role of foreign competition, protection was of central importance in Japanese industrial development during the miracle years. Clearly the trade policy had to be complementary to the competition policy for otherwise a recession cartel, for example, could have been easily overwhelmed by foreign imports. Similarly, import restrictions could have overwhelmed competition altogether were it not for the performance standards that industries receiving protection were forced to meet by the government (through, for instance, MITI's control over foreign exchange, etc.).⁴ During the 1950s and 1960s, the Japanese economy operated under a regime of draconian import controls, whether practised formally or informally. As late as 1978, manufactured imports constituted only 2.4% of the Japanese GDP; the corresponding proportion in Britain and other countries of the EEC was five to six times larger. Even in the US which traditionally, because of its continental size, has a relatively closed economy, the volume of imported manufactured goods in the late 1970s was proportionally almost twice as large as in Japan. (Singh, 1993b).

Protection, together with restrictions on domestic competition, provided the Japanese companies with a captive home market leading to high profits which enabled them to undertake high

⁴ To illustrate, Japan's machine tool industry was given selective tariff protection specifically for those machine tools with potentially high income elasticities of demand and high productivity growth rates. But machine tool builders benefiting from protection were required to produce at least 50% of their output in the form of computer numerically controlled machine tools by a certain date (Amsden and Hikino, 1993).

rates of investment, to improve the quality of their products, and also to capture markets abroad. The latter was of particular importance to Japanese firms, since in return for protection, MITI often imposed on them export and world market share performance targets. Companies recognized that to move forward, to have access to foreign technology, licenses etc., they had to export. The emphasis on exports and on maintaining oligopolistic rivalry - instead of concentrating resources and subsidies on a single "national champion", which many governments in their industrial policies are prone to do - are the key factors which distinguish Japanese policies from those of other dirigiste countries.

At the empirical level, there is an apparent paradox in the operations of the Japanese industrial and competition policies during the high growth period. Although MITI fostered oligopolistic rivalry and investment races among large firms, as seen earlier, it was also responsible for weakening Japan's anti-monopoly laws. Nevertheless, as measured by conventional industry concentration ratios, competition increased, i.e., concentration ratios generally declined.

It is possible to compute concentration ratios for 20 leading industries based on data from the Fair Trade Commission compiled by Nakamura (1981) for years spanning the prewar and early postwar periods. The average (unweighted) 3-firm concentration ratio was 57.6 in 1937, 53.5 in 1950, and 44.1 in 1962. Between 1950 and 1962, concentration increased in only three of 20 industries, stayed roughly the same in two, and fell in all the rest. Similarly Iguchi (1987) shows that aggregate concentration (share of the hundred largest manufacturing firms in total sales) in Japan declined sharply in the 1950s, remained constant or fell slightly in the 1960s, but rose significantly in the 1970s.

The answer to this apparent paradox is not difficult to see.

Industrial concentration declined not because of the effectiveness of the anti-monopoly legislation, but because of the rapid growth of the economy. [Cf. Caves and Uekusa, 1976, p28]. High levels of investment in Japan after 1950 went hand-in-hand in leading industries with new entry or expansion of smaller firms. Iguchi reports that the new entry was particularly important in reducing concentration in the 1950s.

That rapid industrial growth generally, but not always⁵, reduces concentration is not a paradox. It accords with economic analysis as well as empirical evidence from other industrial countries. The essential point however is that, for the reasons outlined earlier, without MITI's industrial policy and restraints on competition, these high rates of investment and economic growth in Japan might arguably not have occurred at all.⁶ Thus in contrast to the conventional paradigm in economic development (see for example World Bank, 1991), which proposes that competition leads to economic growth, the Japanese experience suggests reverse causality; that it was growth which stimulated competition, at least in the sense of reducing industrial concentration, rather than the other way round.⁷

⁵ There are two forces at work here - births of new firms and the relative rates of growth of small and large firms. If large firms grow at a faster rate than small firms, the effect of this maybe greater than that of new entry, and thus increase concentration. See further Hughes and Singh(1980). See also the discussion of the Korean case in the next section.

⁶ Some economists suggest that the Japanese miracle would have occurred without the industrial policy. For a systematic critique of this view, see Boltho (1985). Similarly, others argue that MITI's competition policy measures to attain dynamic efficiency created serious economic imbalances in the affected industries. For a critical analysis of this argument, see Okimoto (1989).

⁷This is not to suggest that the Japanese growth was entirely due to MITI's policies - many other factors were also significant. Similarly, Uekusa (1977) has argued that the occupation authorities deconcentration measures would also have helped increase new entry of firms. Moreover, lower industrial concentration does not necessarily imply reduced monopoly power

Similarly, at the theoretical level, although MITI's competition and industrial policies may go against the conceptions of competition in traditional economic theory with its emphasis on static allocative efficiency, they are fully compatible with many of the new developments in the theory of industrial organisation. There now exist a variety of theoretical models which can provide a formal justification for the various aspects of the highly successful combination of cooperation and competition which MITI fostered in Japan.⁸ However, as Scherer(1992) has observed in relation to game theoretic models of innovation, "with the appropriate constellation of assumptions virtually anything can be shown to happen." In that context the actual experience of Japan in the miracle years is extremely valuable in providing a practical illustration of some of the concepts and analyses of such models.

III Product Market Competition in South Korea

Whereas rapid growth in Japan was accompanied by declining industrial concentration (until the mid-1960s), the relationship between the two variables in South Korea was less straight-forward (in the high growth period 1970-1982). Korea grew rapidly to be sure, and anecdotal evidence strongly suggests that competition among Korea's large and diversified business groups was also fierce. But growth was not accompanied by declining concentration at either the industry or aggregate levels due to the pattern of industrial

of dominant firms, or an increase in consumer welfare in the sense of traditional welfare economics. Hughes and Singh (1980).

⁸There are many models which indicate that "excessive" or unrestricted entry (i.e., fully contestable markets) although useful for static allocative efficiency, is not compatible with dynamic efficiency. See Baumol and Ordover (1992). Similarly game theoretic models of innovation races, spillovers, appropriability conditions, the first mover advantage, the free rider problem, asymmetric information, are also pertinent. For references, see footnote 2.

expansion: "Korea's growth in value added is due first to expansion of existing firms, second to entry of offspring firms, and only to a minor extent to net entrance of new entrepreneurs" (Jones and Sakong, 1980, p.176).

The output of the top 5 and 10 business groups grew much faster than GDP, so that aggregate economic concentration rose spectacularly (Kim, 1987). Korea's all-industry average 3-firm concentration ratio remained higher than Japan's --- 62% compared with 56.3% respectively (in the early 1980s). Between 1970 and 1982 the share of total manufacturing shipments produced under a competitive market structure decreased from roughly 40% to 30%, while the share produced by oligopolies increased from 35% to 50% (Lee, et. al., 1986).⁹

Nevertheless, there is ample evidence that the big business groups still exhibited highly rivalrous behaviour (Kim, 1992). This was because under rapid growth conditions, as well as the rules of the game which the state had established, there was neither the incentive nor the ability for big business to collude. The Korean government both contributed to the rise of big business, through its licensing and subsidized credit policies (it owned or controlled virtually all financial institutions), and went out of its way to insure that big business did not collude, by allocating subsidies only in exchange for strict performance standards (Amsden, 1989).

After 1975 inter-group competition in Korea heated-up as each cheabol, or diversified business group, tried to qualify for

⁹By 1987, however, the share of shipments in Korea produced under competitive market conditions did, in fact, rise, to 43%, while the share accounted for by oligopolies fell, to 40% (Lee and Lee, 1990). This rise of competition cannot be attributed to anti-monopoly legislation, which was introduced in the 1980s but which was implemented only weakly and sporadically. Thus, as in Japan, rapid growth in Korea was accompanied ultimately by declining industry concentration.

generous subsidies to establish a general trading company by meeting government performance standards regarding minimum export volume and number of export products (Cho, 1987).

The importance of state discipline over big business was appreciated by Korean President Park Chung Hee, along with his keen appreciation (some would say to a fault) of the central role of big business in catching up. He wrote: "One of the essential characteristics of a modern economy is its strong tendency towards centralization. Mammoth enterprise--considered indispensable, at the moment, to our country--plays not only a decisive role in the economic development and elevation of living standards, but further, brings about changes in the structure of society and the economy... Therefore, the key problems facing a free economic policy are coordination and supervisory guidance, by the state, of mammoth economic strength" (1962, pp.228-229, as cited in Amsden, 1994). Even more so than in Japan, therefore, growth and competition in Korea were characterised by "administrative guidance".

Although the Korean government disciplined subsidy recipients, it also supported them for lengthy periods until they ultimately became internationally competitive. This enabled firms to have long time horizons for their investment plans. For example, in the Korean automobile industry, for 30 years no foreign cars were to be seen on Korean roads and no Korean cars were to be seen on foreign roads. All the same, the industry's leader, the 90% locally-owned Hundai Motor Company, became the first late-industrialising automobile maker to export to Europe and the United States (Amsden, 1989). As Kim Mahn-Je, the first president of the Korean Development Institute, has noted: "It is true that the success of the Korean automobile industry was achieved by private initiatives. But it is also true that the success could hardly be attributed to market competition per se. Korean

automobiles faced severe competition in the export frontiers. However, it was not market competition that stimulated the industry to grow strong enough to venture into the world market. I am not arguing that market competition was useless. Rather, *I would like to point out that the environment was provided in which the private sectors' creativity and responsibility could be maximised" (1992, p.45).*

IV Conclusion

The analysis of this paper demonstrates that industrial policy has dominated competition policy both in Japan and South Korea.

The central objective of competition policy in these economies has been dynamic rather than static efficiency. Instead of maximum competition, these countries have therefore deliberately restricted it in many directions in order to increase their investment rate and to accelerate their technological development. However, competition, but not of the traditional textbook variety, has also been encouraged in important ways: both Japan and Korea have fostered intense oligopolistic rivalry in individual industries among competing conglomerates.

The paper shows that during much of the high growth period in Japan, despite all the government restrictions on competition, industrial concentration actually fell. This was due to the fact that investment and output rose rapidly, leading to sizeable new entry and fast growth of small firms. Thus in contrast to the conventional paradigm in economic development, it was growth which led to increased competition and reduced concentration, rather than the other way around. Moreover, contrary to this paradigm, it is certainly arguable that without the government control of competition and monitoring of investment "races", such high growth rates may not have materialized in the first place.

It has also been suggested here that the practical experience

of these countries in guiding competition, in creating a highly successful combination of co-operation and competition, can be rationalised in terms of the recent new developments in the theory of industrial organisation and international trade. On the face of it, the East Asian experience would also appear to be consonant with the vision of "plausible capitalism" in Schumpeter (1942), where large oligopolistic corporations are the main vehicles of technological progress. However, this is only true as far as it goes, since an essential feature of East Asian development has been the crucial role of the government in controlling the competitive process, setting performance standards and implementing other industrial policy measures. There is no such industrial policy role for the government in "plausible capitalism".¹⁰

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¹⁰Nevertheless, it is worth noting that the Schumpeterian story may have greater application to present day Japan, where the role of the government in economic activity is much less overt and direct, than during 1950-73, the period on which this paper concentrates. See further the excellent discussion in Scherer (1992).

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